

Appendix: WinBUGS Code

```
#Model
model{
for (j in 1:k){
#Likelihood for within-type model
rOSR[j] ~ dbin(pOSR[j],nOSR[j])
rEVAR[j] ~ dbin(pEVAR[j],nEVAR[j])
logit(pEVAR[j]) <- gamma[j] + psi[j]
logit(pOSR[j]) <- gamma[j]
gamma[j] ~ dnorm(0,0.001)
#Covariate Adjustment
psi[j] <- theta[type[j]] + alpha1*(cadEVAR[j]-cadOSR[j]) + alpha2*(maleEVAR[j]-maleOSR[j]) + alpha3*(ageEVAR[j]-ageOSR[j]) + (sigma[type[j]]*z[j]) #Differences between study arms
psi[j] <- theta[type[j]] + alpha1*(cad[j]-cad.bar) + alpha2*(male[j]-male.bar) + alpha3*(age[j]-age.bar) + (sigma[type[j]]*z[j]) #Aggregate study values
z[j] ~ dnorm(0,1)}
#Likelihood for between-type model
for (i in 1:2){
theta[i] <- mu + (tau*epsilon[i])
#Prior for base case
sigma[i] ~ dnorm(0,4)I(0,) #Reasonably vague
#Priors for sensitivity analysis
sigma[i] ~ dnorm(0,8)I(0,) #Fairly unrestrictive
sigma[1] ~ dnorm(0,1)I(0,) #Vaguest
sigma[2] ~ dunif(0,10)
epsilon[i] ~ dnorm(0,1)
OR.type[i] <- exp(theta[i])
#Prior constraint
for (i in 1:1){
low.epsilon[1] <- min(epsilon[2],-epsilon[2])
up.epsilon[1] <- max(epsilon[2],-epsilon[2])
epsilon[1] ~ dnorm(0,1)I(low.epsilon[1],up.epsilon[1])}
for (i in 2:2){
low.epsilon[2] <- max(epsilon[1],-epsilon[1])
mod.epsilon2 ~ dnorm(0,1)I(low.epsilon[2],)
sign ~ dbern(0.5)
epsilon[2] <- (mod.epsilon2*sign) - (mod.epsilon2*(1-sign))}

alpha1 ~ dnorm(0,0.001)
alpha2 ~ dnorm(0,0.001)
alpha3 ~ dnorm(0,0.001)
cad.bar <- mean(cad[])
age.bar <- mean(age[])
male.bar <- mean(male[])
mu ~ dnorm(0,0.1)
#Informative prior
mu ~ dnorm(-0.5619,1.2226)
#Prior for base case
tau ~ dnorm(0,4)I(0,) #Reasonably vague
#Priors for sensitivity analysis
tau ~ dnorm(0,30)I(0,) #Fairly unrestrictive
tau ~ dnorm(0,1)I(0,) #Vaguest
OR.overall <- exp(mu)}
```